

*Air Force Research Laboratory
Wright-Patterson AFB, Ohio*

Environmental, Safety
and Occupational
Health (ESOH)
Newsletter



August 2004

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Can You Hear Me NOW? Noise Induced Hearing Loss

Mary Shelly, AFRL/MLOF

We live in a very noisy world and our hearing suffers as a result. While there are several causes for hearing loss, noise-induced hearing loss is the focus of this article. Long-term overexposure to hazardous noise will produce a typical high-frequency sensory hearing loss resulting from permanent damage of the cochlear outer hair cells. Gun-shooting and industrial noise are the most common causes of noise-induced hearing loss. Many people who were once in military combat or worked on the flightline with aircraft now have hearing loss. Rock musicians often have hearing loss due to high sound levels of their amplified music. **Individuals who expose themselves to loud music over long periods, especially when listening through headphones, are at a great risk for noise-induced hearing loss. NOISE-INDUCED HEARING LOSS CAN BE PREVENTED!**

What are the effects of noise?

Long exposure to noise can damage the soft tissue of the inner ear. Cells and nerves in the inner ear are destroyed by continuous or repeated exposure to loud sounds. If enough cells and nerves are destroyed, hearing is permanently damaged.

Whether noise harms your hearing depends on the loudness, the pitch and the length of time you are exposed to the noise. The loudness of a sound--measured in decibels (dB)--and the length of exposure are related; the louder the sound, the shorter the exposure can be before damage occurs. For example, 8 hours of exposure to 85-dB noise on a daily basis can begin to damage a person's ears over time. Using power tools (at about 100 dB), listening to stereo headsets (at about 110 dB), attending a rock concert (at about 120 dB) or hearing a gunshot (at 140 to 170 dB) may damage the hearing of some people after only a few times.



What are the symptoms of noise-induced hearing loss?

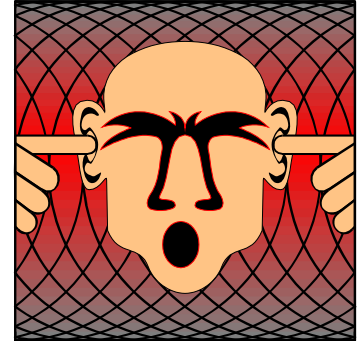
One reason people fail to notice the danger of noise is that too much exposure to noise causes few symptoms. Hearing loss is rarely painful. The symptoms are usually vague feelings of pressure or fullness in the ears, speech that seems to be muffled or far away, and a ringing sound in the ears that you notice when you are in quiet places. These symptoms may go away minutes, hours or days after the exposure to noise ends. People assume that if the symptoms go away, their ears have "bounced back" to normal. This is not really true. Even if there are no more symptoms, some of the cells in the inner ear may have been destroyed by the noise. Your hearing returns to normal if enough healthy cells are left in your inner ear, but you will develop a lasting hearing loss if the noise exposure is repeated and more cells are destroyed.

The first sign of a noise-induced hearing loss is not hearing high-pitched sounds, like the singing of birds, or not understanding the speech of women and small children. If the damage goes on, hearing declines further, and lower pitched sounds, including men's voices, become hard to understand.

How can you decide which noises are too loud?

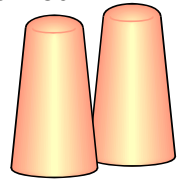
The following signs should be a red flag that the noise around you is too loud:

- If you have to shout to be heard above the noise.
- If you can't understand someone who is speaking to you from less than 2 feet or an arm's length away.
- If a person standing near you can hear sounds from your stereo headset while it is on your head.



How can you prevent noise-induced hearing loss?

- **Reduce your exposure to noise.** This step is especially important for people who work in noisy places and who go to and from work in noisy city traffic. You can reduce your exposure to noise by choosing quiet leisure activities rather than noisy ones.
- **Develop the habit of wearing earplugs** when you know you will be exposed to noise for a long time, both at work and at home. Disposable foam earplugs are very inexpensive and are available at drugstores. These earplugs, which can quiet up to 25 dB of sound, can mean the difference between a dangerous and a safe level of noise. You should always wear earplugs when riding snowmobiles or motorcycles, when using power tools, lawn mowers or leaf blowers, or when traveling in loud motorized vehicles. Employers must provide hearing protection for employees required to work in a hazardous noise environment.
- **Use sound-absorbing materials** to reduce noise at home and at work. Rubber mats can be put under noisy kitchen appliances, computer printers and typewriters to cut down on noise. Curtains and carpeting also help reduce indoor noise. Storm windows or double-pane windows can reduce the amount of outside noise that enters the home or workplace.
- **Don't use several noisy machines at the same time.** Try to keep television sets, stereos and headsets low in volume. Loudness is a habit that can be broken.
- **Don't try to drown out unwanted noise with other sounds.** For example, don't turn up the volume on your car radio or headset to drown out traffic noise or turn up the television volume while vacuuming.
- **Have your hearing checked.** Persons at risk for hearing loss should have their hearing tested every year. You are at risk if you are regularly exposed to loud noise at work or play.



Typical Decibels for Common Activities

<u>Home</u>	<u>Work</u>	<u>Recreation</u>
50–75 washing machine	40 quiet office, library	40 quiet residential area
50-80 electric shaver	50 large office	70 freeway traffic
55-70 dishwasher	65-95 power lawn mower	85 heavy traffic
60-85 vacuum cleaner	80 manual machine, tools	85 noisy restaurant
60-95 hair dryer	85 handsaw	90 truck
70 TV	95 electric drill	90 shouted conversation
75-85 toilet flush	100 factory machinery	100 boom box
80 doorbell	105 snow blower	110 dance club
80 telephone	110 power saw	110 symphony concert
80-90 mixer, blender	110 leaf blower	110-120 rock concert
80-95 garbage disposal	120 chainsaw, hammer on nail	117 football stadium
110 crying baby	120 pneumatic drills	120 band concert
135 noisy squeeze toys	120 heavy machinery	125 auto stereo (factory)
	120 jet plane (at ramp)	130 stock car races
	120 ambulance siren	150 firecracker
	125 chain saw	157 balloon pop
	130 jackhammer	162 fireworks (from 3 ft)
	150 jet engine taking off	163 rifle
	150 artillery fire at 500 feet	166 handgun
	180 rocket launching from pad	170 shotgun

According to the National Institute for Occupational Safety and Health (NIOSH), **prolonged exposure to sounds over 85 decibels can cause hearing loss.** Sudden bursts of noise such as those from a jackhammer or fireworks can cause damage much more quickly. If your job requires you to work in a noisy environment such as a maintenance area, flight line, machine shop, etc. you most likely need hearing protection. If you know this to be true, make sure to always wear all prescribed hearing protection and ensure visitors to your area are issued hearing protection also. Signs should be posted warning of the noise hazards present.

Contact the Bioenvironmental Office at 255-6815 if you are concerned that your workplace may exceed safe noise levels but engineering controls and/or hearing protection are not being utilized. They can perform a survey to help make this determination and ensure you know what type of hearing protection if any is required for your workplace.

References:

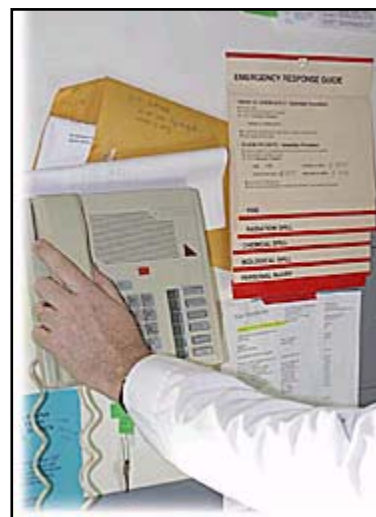
<http://familydoctor.org/226.xml>
<http://depts.washington.edu/hearing/Hearing%20Loss.html>
 League for Hard of Hearing: <http://www.lhh.org/noise/decibel.htm>

Emergency Evacuations and Spill Procedures: Are You Ready?

Mary Shelly, AFRL/MLOF

Where would you report to if you had to evacuate your building in the event of a chemical spill or fire? Where is the closest exit? Do you know where your tornado shelter is? Where is the closest fire extinguisher, emergency shower, or eyewash station? If you do not readily know the answers to these questions, you need to find out. It could mean the difference between a safe evacuation versus severe injury or even death. How many times have we heard on the news about people getting trapped in burning buildings where exits were blocked or not adequately marked? Unfortunately this happens too frequently.

In accordance with Air Force Policy Directive (AFPD) 32-40, *Disaster Preparedness*, your organization should have a **Disaster Preparedness Plan** that outlines an orderly method for response to unexpected occurrences such as severe weather/tornadoes, fire, chemical releases, etc. (Usually security issues, e.g. bomb and terrorist threats etc. are handled under a separate plan. If not, they should be included here also.) The Disaster Preparedness plan should detail out evacuation procedures, emergency phone numbers, points of contact, roles and responsibilities, and should include maps of your facility including outside re-assembly locations and interior tornado/severe weather shelters. Employees need to know where their reassembly point is and report there so that supervisors can account for employees during evacuations.



Does your organization have a **Site-Specific Spill Plan**? Have you read it? Your Spill Plan should detail out what to do in the event of a chemical release and include information such as locations of stored chemicals, probable spill routes, emergency notifications, evacuation procedures, spill response and cleanup, location of spill kits, Material Safety Data Sheets (MSDSs), emergency showers and eyewash stations, etc. The plan is a critical piece of information to present to the emergency response team when they arrive, as it will help them to know what hazards they might expect when responding to the chemical release or other emergency. In the event of a spill, make sure to **grab the spill plan on your way out** if this can be done safely and present it to the Fire Department. Give them as much information about the nature, quantity, location, and known hazards associated with the spilled material.



Employees need to be trained on both the Disaster Preparedness Plan and the Site-Specific Spill Plan, especially when there have been significant changes to either plan or there has been a failure with implementing the plan. This includes summer hires and new employees. **Practice drills** should also be held frequently to ensure employees know the proper response procedures so there is no doubt in a real emergency. Proper planning for emergencies is an important element of employee safety that can be the difference between life and death.

In the Event of an Emergency:

1) Evacuate Area Quickly

- Notify others in the area of the emergency and all leave *immediately*. Make sure to check restrooms, equipment rooms, or other areas that may not hear an alarm. Assist others in evacuating if needed.



- Turn off gas valves, and electrical equipment and shut down experiments before you leave only if you can do so quickly and safely. This helps prevent other factors from contributing to the problem. In the event of a chemical spill, grab the site-specific spill plan and take it with you. It should be posted at the door.

- **IMPORTANT: Leave through the NEAREST exit**, not necessarily the one you use every day out of habit, the one closest to your exterior reassembly point, or closest to your parking lot. This may require pushing a panic bar causing an alarm to sound when you open a door, exiting down an emergency stairway, or walking around the exterior of the building to get to your reassembly point. If you routinely use the elevator, make sure you know where the stairs are located and use them in an emergency evacuation.

Often times people hear an alarm and assume it's an exercise or a non-emergency, something malfunctioned, or for various other reasons do not take the alarm seriously and therefore take their time exiting the building. This is a big mistake. EVERY time you hear an alarm, assume it is a true emergency and evacuate immediately.

2) Pull Fire Alarm

- Usually fire alarm pull boxes are located at all exit doors. This is something you should verify during your disaster preparedness training. Don't wait for an actual emergency to figure out where they are.



3) Call 911 from a Safe Location

- Even though you pulled the fire alarm, it is still important to call 911 and give the dispatcher as much information as you can about the nature of the incident. Be prepared to provide the following information:

WHERE – exact location, building, room number, directions. Give your name and phone number from where you're calling. If you're calling "911" from a cell phone, make sure to tell the dispatcher the emergency is at Wright-Patterson AFB.

HOW – What happened? How did the accident start? How long ago?

WHAT – Brief description of the accident: Fire? Chemical spill? What and how much? Did it get to the environment or down a drain? Any injuries? How severe and how many people are involved?

When the emergency responders arrive, brief them on the incident and provide any information you have such as a Spill Plan, Material Safety Data Sheets, hazards of the chemical(s) involved, layout of the room(s) involved, etc.

(FYI, you can always check the "911" capability of your work phone by contacting the Base Dispatcher at 257-3033 and letting them know you are going to perform a test of your "911" system. Then dial "911" from the phone in question and ensure it works properly and connects to the 911 operator. It is a good idea to do this at least once at phones in critical areas such as in shops or labs, chemical storage areas, equipment rooms, public areas, etc. to ensure a "911" call placed on that phone actually works or if additional numbers need to be dialed, such as 9-911 etc. If so, post such information on the phone. Also, the dispatcher should be able to identify what building you are calling from, possibly a floor or room number, and phone number.)

**IN CASE OF
EMERGENCY
DIAL 9-1-1**

4) Report to Your Reassembly Location

If you have to evacuate the building, make sure to immediately report to your reassembly area and report to your supervisor. Help him or her account for others who may be at lunch, at a meeting, or possibly still in the building. If you are providing information to the response team, ask someone to let your supervisor know your location. **Wait for the "All Clear" before returning to your building.** Never re-enter an evacuated building without authorization from the on-scene commander.

Hopefully all you will ever have to do is practice for emergencies, but if a real emergency were to occur, you should be prepared. Proper planning and exercise of emergency procedures should increase the survivability of all personnel and reduce equipment loss.

**Safety is NO
ACCIDENT!**





Blood Drive Locations at AFRL:

AFRL/HE

1 Sep, 3 Nov 04 from 0900-1200

Steve Stokes 255-8907

Capt Kevin Krueger 255-8883

AFRL/VA

4 Aug, 8 Dec from 0900-1200

Scott Sherer 904-4028

AFRL/SN

24 Aug, 8 Nov 04 from 0900-1400

Lt Dillenburg 51115 x4031

AFRL/PR

7 Sep, 22 Nov from 0900-1400

Bob Behdadnia 54171

AFRL/ML

29 Sep from 0900-1200

AFRL/ML (Bldg 653) Cafetorium

Mary Shelly 59000

Click here to see if you are **eligible to donate**:

http://tricare.osd.mil/asbpo/donor_info/deferral.htm

You can donate blood every 57 days.

Visit the **Armed Services Blood Program** website for more info on donating blood: <http://tricare.osd.mil/asbpo/>

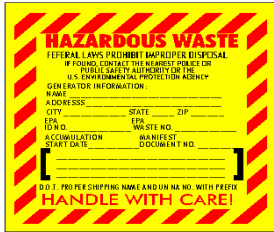
Or call the Donor Center at 70580/ 71038

or contact Mary Shelly at 255-9000



THANKS TO ALL THE GENEROUS BLOOD DONORS!!!
Your single blood donation could save up to three lives.

ESOH Training



2004 RCRA Hazardous Waste Training: Mandatory for all employees who generate hazardous waste. Issue Point (IP) Managers, Hazwaste generators, primary and alternate Initial Accumulation Point (IAP) managers, Unit Environmental Coordinators (UECs), and supervisors of all these individuals must take annual RCRA training.

ALL RCRA HAZARDOUS WASTE TRAINING CAN NOW BE SCHEDULED ON-LINE VIA 88 ABW/EM's Home Page: [Click here to SCHEDULE RCRA TRAINING](#)

Initial Training: 16 Sep, 18 Nov 04

Annual Refresher Training - Organizations other than AFRL
19 Aug, 21 Oct, 16 Dec 04

Annual Refresher Training - AFRL
22 Sep, 16 Nov 04

For questions contact 88 ABW/ EM at 257-7454
or Mary Shelly, AFRL/MLOF at 255-9000



Environmental Compliance, Assessment and Management Program (ECAMP) Training (ENV020)

Please contact Environmental Management at 75536 if you are interested in taking ECAMP training or being on an ECAMP team.

For class description or to sign up, go to AFIT's website:
<http://cess.afit.af.mil/> Click on Courses > Environmental Engineering > WENV020. Info for contractor enrollment is also on the website.

This course is designed to give students knowledge to successfully plan and execute an internal or external compliance assessment, prepare required reports, and direct the follow-up actions.



Environmental, Safety and Occupational Health (ESOH) Awareness Training

18 Aug 04 - Bldg 50, Area B

17 Nov 04 – hospital auditorium
classes run from 0800-1200

Sign up with 88 ABW/ EM, Treva Bashore, 76391

This course covers a broad range of ESOH topics that apply to all of us at Wright-Patterson, including mandatory training requirements. This course is highly recommended for all employees on Base, including contractors. Supervisors are highly encouraged to attend.

Unit Environmental Coordinator (UEC) Training

Sign up through AFIT's website at <http://cess.afit.af.mil/>

Click on Environmental Engineering, then WENV220

Info for contractors to enroll is also on the website.

This course equips the unit environmental coordinator (UEC) to improve and maintain environmental compliance within their organization, recognize and address problems when they occur, and act as base-wide point of contact for environmental issues concerning their organization. For more info on the class:

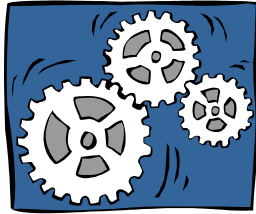
http://cess.afit.af.mil/course_des.cfm?p=WENV%20220



CPR Training

Required for electrical and confined space workers per 29 CFR 1910.151. The American Heart Association recommends CPR refresher training every two years and the American Red Cross recommends CPR refresher training every year. CPR training (per the American Heart Association) is taught at the Base Hospital every Tuesday provided that there are enough students.

**Contact Marcia Wilson at 79347 or Karen Turner
Phone: 48384 (Bldg 675 Area B)**



Operational Risk Management (ORM)

To sign up, contact Chuck Swankhaus at 43390

ORM is a tool anyone can use to help with planning and decision-making in order to reduce or eliminate potential risks and increase efficiency. The Safety Office (ASC/SEG) has made two ORM briefings available over the Internet. Click on the following links to learn more about ORM:

Awareness Level ORM Training:

https://www.asc.wpafb.af.mil/asc/safety/orm/exec_training.ppt

Level II ORM Training:

https://www.asc.wpafb.af.mil/asc/safety/orm/orm_level_ii_training.ppt

2004 Public Health Training

To sign up for training or schedule a class at your organization, please contact Public Health at 255-2515.



Hazardous Communication (HAZCOM)

29 Oct 04

This course is a Train-the-Trainer course that provides mandatory HAZCOM training to supervisors and safety reps responsible for their organization's HAZCOM program. Must have previously had general Hazcom training. Per 29 CFR 1910.1200, Hazcom training is required for all employees who use, handle, or may be exposed to hazardous materials upon initial assignment to that job (if not already receiving Chemical Hygiene Training per 29 CFR 1910.1450). HAZCOM refresher training is required whenever a new

chemical or hazardous process is introduced into the work area or it is evident an employee needs refresher training. Otherwise, there is no "annual" requirement for HAZCOM training.

Asbestos Awareness

23 Sep, 9 Dec 04

Hearing Conservation

16 Sep, 11 Nov 04

Hearing Conservation - Supervisor

30 Sep 04

Other PUBLIC HEALTH Training Available Upon Request:

Benzene	Cadmium
Carbon monoxide	Chemical Hygiene
Cold Stress	Ergonomics
Formaldehyde	Heat Stress
Laser Hazard	Lead
Personal Protective Equipment	Reproductive Hazards in the
Respiratory Protection	Workplace
Universal Precautions/ Bloodborne Pathogens	



Health and Wellness Center (HAWC) Training

Looking for an informative presentation for your next commander's call, off-site, or training session? Let the Health and Wellness Center take the pressure off your scheduling worries! The HAWC has a variety of programs and classes to make your next event a hit. To schedule a presentation, all you need is at least 15 participants and the necessary audiovisual equipment, and the HAWC will come to you. At least three weeks' advance notice is requested.

Here are some Public Health training topics:

Stress Management

dealing with difficult people, surviving change, surviving the holidays, resolutions....

Tobacco Cessation

tobacco use and options for quitting

Nutrition

fad diets, winning at losing, healthy eating for a healthy heart, eating on the run...

Fitness

exercise after 40, starting an exercise program, hypertension and exercise, cholesterol and exercise...

To get the latest schedule of classes or schedule a presentation please call 904-WELL.

WPAFB ESOH Phone Numbers and Websites:

(all area codes are 937)

ESOH GATEWAY – <https://www.asc.wpafb.af.mil/esoh/index.htm> *This website contains links to all the ESOH websites on Base and more. It is still being designed so if you have any suggestions, please send them to mary.shelly@wpafb.af.mil*

ENVIRONMENTAL MANAGEMENT: 257-5627 <http://www.abwem.wpafb.af.mil/em/>
The Office of Environmental Management (88 ABW/EM) has changed their phone numbers. For a complete listing, please see their website:
https://wrigem.wpafb.af.mil/EM/staff/index.cfm?fuseaction=main&obj_id=93

SAFETY: 904-3391 <https://www.asc.wpafb.af.mil/asc/safety/index.html>

PUBLIC HEALTH: 255-2515/255-4089 <https://wpmc3.wpafb.af.mil/amds/ph/index.htm>

BIOENVIRONMENTAL ENGINEERING: 255-6815 <https://www.bio.wpafb.af.mil/>

HEALTH AND WELLNESS CENTER (HAWC): 904-9355
<http://wpmc1.wpafb.af.mil/pages/hawc/>

CAP OFFICE: 257-1505 <http://www.afmc-pub.wpafb.af.mil/ESC/MM/CAP/>

You may also contact CAP via email at: msgcapoffice@wpafb.af.mil with ergonomic or other issues regarding workplace accommodations

Helping Agencies

* Family Advocacy	257-6429
* Family Support Center	257-3592
* Life Skills Support Center	257-6876/77
* Alcohol and Drug Awareness	257-4121
* American Red Cross	257-9875
* Chapel	257-7427
* Health and Wellness Center	904-9355
* Family Member Programs	257-2644
* Employee Assistance Program	904-5828



Please contact Mary Shelly 255-9000 for any additions/changes to this listing

Unit Safety Reps: please post this ESOH newsletter on your safety bulletin boards.

If you have any suggestions for this newsletter or if you would like to be added / removed from the distribution list, please contact **Mary Shelly** via email or at **255-9000**.